

Application Serial No.: 10/072,345
Attorney Docket No.: 0190142

List of Claims:

Claim 1 (Currently Amended): A method for increasing the resolution of an imaging array, the method comprising:

capturing two or more images within the imaging array, each image captured in a successive time interval corresponding to an image capture and storage rate of the imaging array;

correlating pixels of at least one of the two or more images by shifting to locate corresponding pixels of the other images, wherein the correlating includes multiplying values of shifted pixels and the corresponding pixels of the other images to generate a plurality of products, generating a squared sum of the plurality of products, and obtaining the highest squared sum of the plurality of products; and

combining the correlated pixels of the two or more selected images into a single enhanced image;

wherein an effective resolution of the single enhanced image is greater than a resolution of each of the two or more images.

Claim 2 (Previously Presented): The method of claim 1, wherein the combining comprises:

creating new pixel values by interpolating values between the corresponding pixels of the combined images.

Application Serial No.: 10/072,345
Attorney Docket No.: 0190142

Claim 3 (Original): The method of claim 1, wherein the imaging array is comprised of charge-coupled device (CCD) sensors.

Claim 4 (Original): The method of claim 1, wherein the imaging array is comprised of complementary metal oxide semiconductor (CMOS) sensors.

Claim 5 (Cancelled)

Claim 6 (Original): The method of claim 1, wherein the successive time interval is between 10 milliseconds (ms) and 100 ms.

Claim 7 (Original): The method of claim 1, wherein the imaging array is a monochrome imaging array.

Claim 8 (Currently Amended): An image enhancing device comprising:
means for receiving a plurality of successive images from an imaging array;
a memory for storing the plurality of successive images; and
means for correlating a first plurality of pixels of a first image of the plurality of images by shifting to locate a second plurality of pixels of a second image of the plurality of images corresponding to the first plurality of pixels, wherein the correlating means

Application Serial No.: 10/072,345
Attorney Docket No.: 0190142

includes means for multiplying values of the first plurality of pixels and the corresponding second plurality of pixels to generate a plurality of products, means for generating a squared sum of the plurality of products, and means for obtaining the highest squared sum of the plurality of products; and

means for combining the first plurality of pixels with the second plurality of pixels to generate an enhanced image, such that an effective resolution of the enhanced image is greater than a resolution of either the first image or the second image.

Claim 9 (Previously Presented): The image enhancing device of claim 8, further comprising:

means for transmitting an instruction to the imaging array to capture an additional image and to transmit the additional image to the means for receiving.

Claim 10 (Previously Presented): The image enhancing device of claim 9, further comprising:

means for determining when the additional image is required from the imaging array; and

means for generating the instruction when the determining means determines the additional image is required.

Application Serial No.: 10/072,345
Attorney Docket No.: 0190142

Claim 11 (Previously Presented): The image enhancing device of claim 8,
wherein the plurality of successive images are transmitted by the imaging array between
10 milliseconds (ms) and 100 ms apart.

Claim 12 (Previously Presented): The image enhancing device of claim 8,
wherein the plurality of images are captured within the imaging array by charge-coupled
device (CCD) sensors.

Claim 13 (Previously Presented): The image enhancing device of claim 8,
wherein the plurality of images are captured within the imaging array by complementary
metal oxide semiconductor (CMOS) sensors.

Claim 14 (Cancelled)

Claim 15 (Currently Amended): A digital camera comprising:
an imaging array; and
an image enhancement device coupled to the imaging array, the image
enhancement device including:
a memory for storing two or more images received form the imaging
array;

Application Serial No.: 10/072,345
Attorney Docket No.: 0190142

logic for correlating a first plurality of pixels of a first image of the two or more of images by shifting to locate a second plurality of pixels of a second image of the two or more of images corresponding to the first plurality of pixels, wherein the logic for correlating includes logic for multiplying values of the first plurality of pixels and the corresponding second plurality of pixels to generate a plurality of products, logic for generating a squared sum of the plurality of products, and logic for obtaining the highest squared sum of the plurality of products; and
logic for combining the first plurality of pixels with the second plurality of pixels to generate an enhance image, such that an effective resolution of the enhanced image is greater than a resolution of either the first image or the second image.

Claim 16 (Previously Presented): The digital camera of claim 15, the image enhancement device further comprising:

a transmitter configured to transmit an instruction to the imaging array to capture an additional image and to transmit the additional image to the image enhancement device image.

Claim 17 (Previously Presented): The digital camera of claim 15, wherein the time between the two or more is between 10 milliseconds (ms) and 100 ms.

Application Serial No.: 10/072,345
Attorney Docket No.: 0190142

Claim 18 (Original): The digital camera of claim 15, wherein the two or more images are captured within the imaging array by charge-coupled device (CCD) sensors.

Claim 19 (Original): The digital camera of claim 15, wherein the two or more images are captured within the imaging array by complementary metal oxide semiconductor (CMOS) sensors.

Claim 20 (Cancelled)